Making Austin Solar-Ready

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Presentation to EUC and RMC

April 2016

Overview

- What is solar-ready or solar-ready zone?
- Why solar-ready
- Who has done it in the US
- What is on the table
  - Draft Residential
  - Draft Commercial
- Next Steps

Solar Ready?

- Makes sure that new buildings can easily incorporate solar
- IECC Appendix RB- **SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.**
- California Energy Commission – "The intent of the solar ready building requirements is to integrate design considerations that impact the feasibility of installing solar energy systems into the original building design. The Energy Standards require buildings to have an allocated solar zone that is free of obstructions and is not shaded. In addition, the Energy Standards require that the construction documents depict a plan for connecting a PV and SWH system to the building's electrical or plumbing system. For areas of the roof designated as solar zone, the plans must also clearly indicate the structural design loads for roof dead load and roof live load. "

Why make Austin Solar-ready?

Fits in with our Generation 2025 Plan & 2050 Climate Plan

- Local Solar Goal: 200 MWs by 2025, including 100 MWs Customer-sited
- Renewable Energy Goal: 55% renewable by 2025
- Making new homes and commercial buildings solar-ready will help achieve both goals
- More commercial, homes and multi-family should be able to integrate solar with use of EVs
- Will need local solar to achieve overall 2050 Net-Zero Carbon Goal

Fits in with our Net-Zero 2015 Capable Goal

- IN 2007, we committed to making residential buildings net-zero capable by 2015
- We haven't quite made it, but passing the 2015 IECC with local amendments plus solar-ready helps meet the spirit of that goal
- Will also help move multi-family buildings toward net-zero energy capable goal, suggested by low-income task force

Multiple Jurisdictions have moved or moving to solar-ready

- For first time, 2015 IECC includes a **residential** solar-ready provision (Appendix RB) that jurisdictions can adopt easily as mandatory provision
- State of California passed solar-ready residential **and commercial** provisions in 2013; implemented in 2014
- State of Massachusetts has proposed solar-ready for both **residential and commercial --C402.3.2 Solar-ready zone area.** The total solar-ready zone area shall be not less than 1,600 square feet, or 50% of the roof area that is either flat or oriented between 110 degrees and 270 degrees of true north, exclusive of mandatory access or set back areas as required by the MA Fire Code.
- Houston has a solar-ready residential requirement
- Energy Trust of Oregon requires it for certain incentive programs
- Several individual cities mainly in Southwest have recently implemented solar-ready residential provisions.

What is Austin proposal?

- It builds on previous solar-ready provisions in other jurisdictions, but attempts to simplify and adjust them to Austin reality
- Aligns our solar-ready definitions to our building guidelines and solar incentives
- Based partially on existing requirements in Mueller area
- Attempts to cover all building types but creates exceptions for smaller units, those with shade and those that already plan to add solar or other renewable energy systems among other exceptions

What is on the table in Austin: Residential

- Residential – Single-family, townhouses and multi-family less than 4 stories
  - Required solar-ready zone on roof --at least 240 Square Feet for single-family or 160 Square Feet for townhouses(exclusive of mandatory access or set back areas as required by Fire Code)
  - For four story multi-family buildings, solar-ready zone shall be not less than 35% of the total roof area of the building.
  - Design requirements for roof load, construction documents, and reserve space for future electric box – only required wiring is a conduit if load panel is inside conditioned space
  - 3 Exceptions:
- 1. New residential buildings with a permanently installed on-site renewable energy system.
- 2. A building with a solar-ready zone that is shaded by trees or adjacent structures for more than 50 percent of daylight hours annually.
- 3. Detached dwellings having total floor area less than or equal to 600 square feet (55.74 m2).

Required Solar-Ready for Commercial

- Only applies to commercial buildings with a potential solar area of at least 2000 feet (Potential Solar Area is Gross Roof –Affected Area)
- Only pitched roofs with correct orientation are considered
- If you do have 2000 foot potential solar area, then designated solar zone must be at least half of this potential solar zone
- Exceptions
  - Does not apply if Potential solar area less than 2000 Feet
  - Downtown Network Area
  - If roof is used for parking or helioport
  - High hazard buildings (Type H)

Next steps

- EUC Discussion and Input on April 18
- RMC Discussion and Input on April 19
- Either body could potentially approve in April, but…
- Also possible final votes on May 16 and 17, seeking input from stakeholders – including other city departments -- in meantime
- Assuming approval, incorporate Solar-Ready amendment into Building Energy Code Ordinance going to City Council on May 19th or June 9th.

Questions?